MAINE

John R. McKernan, Jr.
Governor

C. Edwin Meadows
Commissioner

DEPARTMENT OF CONSERVATION

December 11, 1990

James P. Linnane
Field Representative
Forest Pest Management
Forestry Sciences Laboratory
PO Box 640
Durham, NH 03824

Dear Jim:

Attached is the insect portion of our forest pest conditions summary for Maine for 1990 as well as a summary of the situation regarding the European larch canker and Stillwell's Syndrome. The 1990 season was a busy one and along with our extensive commitment to the forest health monitoring effort, regular surveys and an upswing in populations of gypsy moth and hemlock looper commanded a very full work schedule. These efforts have provided some interesting as well as informative results. More detailed summaries of the seasons' activities will be available early in 1991 in an annual published summary.

Our two more notable pests in 1990 were the gypsy moth and hemlock looper, each of which generated their own sets of unique problems. While both insects generated public concern it was much easier to deal with the known aspects of population assessment in the case of the gypsy moth than the plethora of unknowns in the case of the hemlock looper complex. We do now have a slightly better understanding of hemlock looper, however, which is improving with experience.

In addition to the usual perennial problems there were a number of new and unusual ones in 1990 as well. These have not been included in this report because of their relatively minor status. Some of the new problems which we dealt with for the first time in 1990 were the euonymus caterpillar (Yponomeuta sp.), locust leafminer (Odontota dorsalis) and boxelder bug (Leptocoris trivittatus). Most of these pests were striking in their abundance and/or damage but were very localized. The conifer swift moth (Korscheltellus gracilus) appeared briefly in great numbers in a number of softwood stands especially in eastern Maine. In addition larvae of the confused Haploa (Haploa confusa) emerged in very large numbers early in the season in Crystal. The deer tick, Ixodes dammini, although not a tree pest, was monitored by one of our staff who found that it was increasing in abundance and in range distribution northward.

The attached summary sheets should provide the information which you need for most of our pests. Should you have need of more information, give me a call.

Sincerely,

David Struble
State Entomologist

Enclosures

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Arborvitae Leaf Miner

(SPECIFIC NAME): Argyresthia thuiella; A. freyella; A. aureoargentella; and Recurvaria thujaella

HOST: Northern White Cedar -- Thuja occidentalis

PRESENT CONDITION: Populations dropped dramatically generally statewide except for slight increases in 7 locations

AREA (TOTAL ACRES): Unknown

LOCATION: Central, Eastern and Northern Maine

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Populations generally declined in 1990 survey.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): No data taken to estimate loss. Growth losses are apparent in many areas. Species is underutilized in the state.

TREND:

PAST TO PRESENT: Populations vary upward and downward in successive years Currently on a downward trend generally.

FUTURE: Situation will remain as in the past, Variable.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None planned

COMMENTS: As the species increases in value, an increased emphasis must be placed on this pest due to the heavy growth loss and potential tree mortality.

1990 Arborvitae Leaf Miner Summary

Location	# of Live Larvae Per 3" Twig-1990	# of Live Larvae Per 3" Twig-1989	Increase Decrease
Palmyra	2.65	2.66	-0.01
Belgrade	2.09	3.46	-1.37
Plymouth	2.39	10.84	-8.45
Cornville	3.25	3.35	-0.10
Newport	2.87	3.81	-0.94
Freedom	1.72	6.01	-4.29
Detroit	3.66	6.80	-3.14
Whiting	1.67	3.24	-1.57
Trescott	1.71	2.26	-0.56
Edmunds	2.41	2.77	-0.36
Ludlow	1.04	0.22	+0.82
Moro	0.96	0.37	+0.59
Nashville	0.25	0.19	+0.06
Connor	0.47	0.41	+0.06
T9-R5	0.17	0.26	-0.09
Winterville	0.45	0.50	-0.05
Orient	1.53	1.13	+0.40
Macwahoc	1.57	3.29	-1.72
Little Squaw	0.32	0.18	+0.14
Seboomook	0.05	0.03	+0.02

1990 PEST CONDITIONS REPORT WORK SHEET

MAINE

CHRISTMAS TREE PESTS

PEST - (COMMON NAME): Balsam Twig Aphid, Balsam Gall Midge

(SPECIFIC NAME): Mindarus abietinus (Koch)
Paradiplosis tumifex (Gagne)

HOST: Balsam fir

PRESENT CONDITION:

AREA - TOTAL ACRES: 5,000 Acres

LOCATION: Statewide

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):
Mindarus 1,000
Paradiplosis 3,000

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):
Control programs kept losses to a minimum

TREND:

PAST TO PRESENT:

FUTURE:
Mindarus populations are expected to be stable.
Paradiplosis populations are expected to decrease.

CONTROL PROJECTS - METHOD, MATERIAL, ACRES, COST, RESULTS:
Both aerial and ground applications using diazinon were utilized on Christmas tree plantations scattered throughout the State.

COMMENTS:

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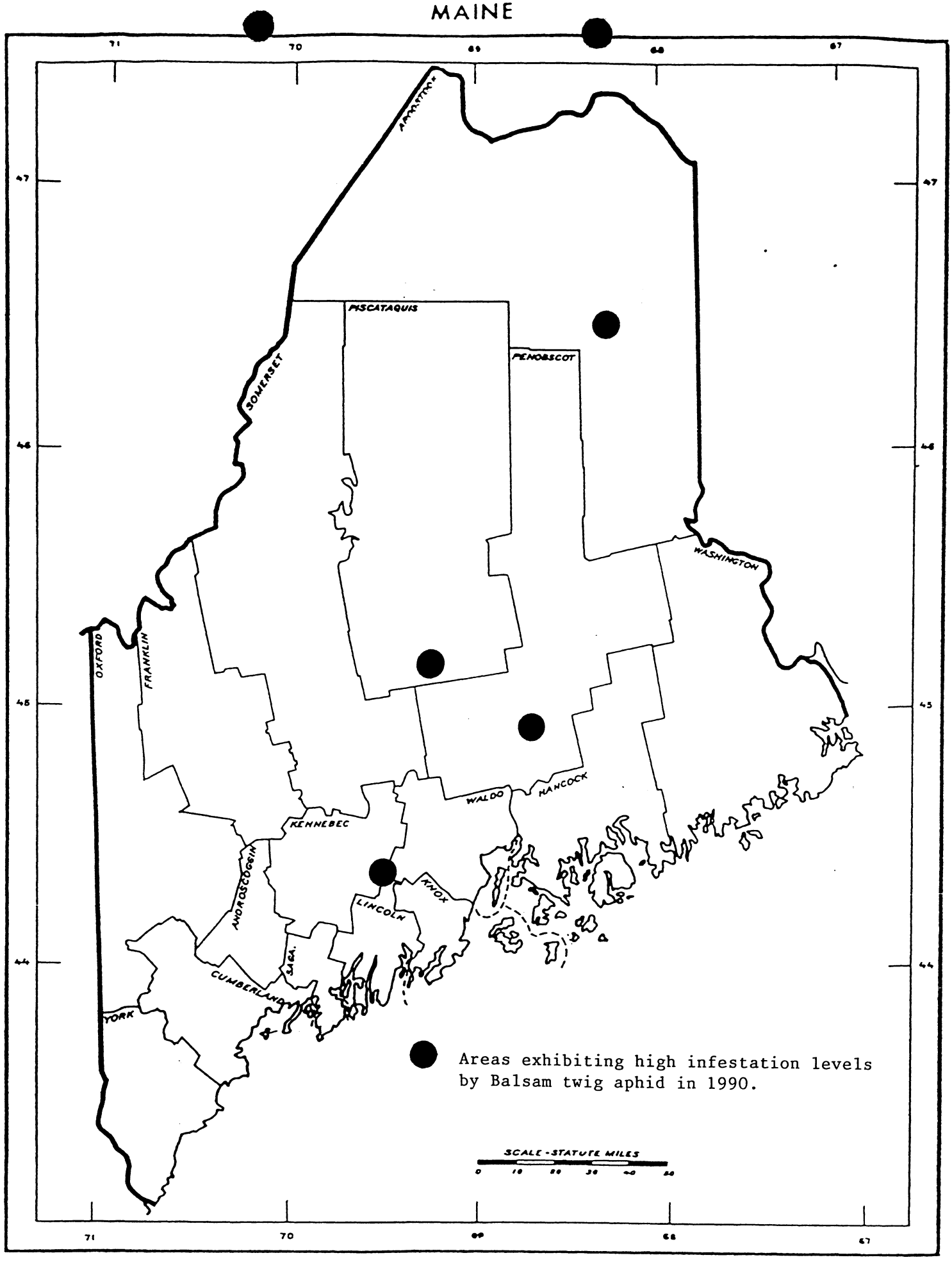

Areas exhibiting high infestation levels by Balsam twig aphid in 1990.

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Balsam Woolly Adelgid

(SPECIFIC NAME): Adelges piceae (Ratz.)

HOST: Balsam Fir

PRESENT CONDITION:

AREA (TOTAL ACRES): Endemic throughout most of central and southern Maine

LOCATION: " " " " " "

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Trunk phase populations stable at 1989 levels over 200-500 acres primarily in North Central Penobscot County (Medway and T4 R9 NWP)

Gout phase which has been extremely common in the past in coastal areas seems to be moderating somewhat.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Probably much higher than realized

TREND:

PAST TO PRESENT: Stabilized somewhat over previous seasons.

FUTURE: Not known

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS:

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Beech Bark Disease

(SPECIFIC NAME): Cryptococcus fagisuga/Nectria coccinea Complex

HOST: Beech

PRESENT CONDITION:

AREA (TOTAL ACRES): Throughout the resource

LOCATION: Statewide

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Various - most stands exhibit trees at all levels from uninfested to dead.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Losses attributable to this pest complex are extensive but are complicated by the associated impact of drought (1988-89) and other insects. This makes an assessment difficult. This resource has also been underutilized in the pest and is only now receiving

TREND: increasing attention.

PAST TO PRESENT: We may be entering another wave of this problem. The frequency of sightings of beech heavily infested with scales continued to increase again in 1990 and trees exhibiting heavy fruiting of nectria was also more evident.

FUTURE: Unknown

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): Dave Houston's work is the only effort in this direction at present.

COMMENTS:

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Birch Casebearer

(SPECIFIC NAME): Coleophora serratella (L.)

HOST: White Birch

PRESENT CONDITION:

AREA (TOTAL ACRES): Spotty

LOCATION: Northern 2/3 of the State

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Scattered spots of noticeable defoliation were again reported from northern and central Maine and in the Rangeley area.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): No estimates available for 1990. Most aesthetic.

TREND:

PAST TO PRESENT: Stable and endemic

FUTURE: Not known

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None.

COMMENTS:

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Birch Sawfly

(SPECIFIC NAME): Arge pectoralis (Loach)

HOST: Birch

PRESENT CONDITION:

AREA (TOTAL ACRES): Spotty

LOCATION: North Central Maine

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Light to moderate defoliation but very spotty; sometimes only a single tree.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None

TREND:

PAST TO PRESENT: Down in both extent and severity in 1990.

FUTURE: Not known but expected to continue down overall.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS:

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Browntail Moth

(SPECIFIC NAME): Euproctis chrysorrhoea

HOST: Willow, Cherry, Roses, Rubus, Oaks

PRESENT CONDITION: Appears to be increasing in intensity

AREA (TOTAL ACRES): 40+ acres known to be infested plus an unknown amount on the mainland.

LOCATION: Casco Bay islands, Long, Vail, and House and 8 towns on the mainland

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): 2 - 3 acres of heavy to severe defoliation on Long Island. Vail generally infested, House generally overall, 8 towns and 24 locations found infested on the mainland in spring of 1990

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): No tree mortality noted or expected.

TREND:

PAST TO PRESENT: Remained confined to three islands for several years. Found again on the mainland in 1989 in Freeport. In 1990, 7 other towns were found to have infestation.

FUTURE: Increase in number of islands becoming infested and further areas on the mainland becoming infested.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): No regular control undertaken. Visual survey of mainland areas undertaken and incidental webs found are clipped and destroyed. Pheromone trapping was undertaken in 1990 with poor results.

COMMENTS: Pheromone trapping in 1989 indicated areas to be scouted and webs were found in all of those areas. Trapping in 1990 did not result in the capture of any moths. Reason not yet explained.
State will continue to monitor and would assist in further study of use of pheromone traps as a survey tool.

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Bruce Spanworm, Fall Cankerworm and Spring Cankerworm

(SPECIFIC NAME): *Operophtera bruceata* (Hulst)
Alsophila pometaria (Harris)
Paleacrita vernata (Peck)

HOST: Various hardwoods

PRESENT CONDITION:

AREA (TOTAL ACRES): 0

LOCATION:

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): No defoliation reported in 1990

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None

TREND:

PAST TO PRESENT: Stable at low endemic levels

FUTURE: Not known

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS:

1990 PEST CONDITIONS REPORT WORK SHEET

MAINE

PEST - (COMMON NAME): Eastern Larch beetle

(SPECIFIC NAME): Dendroctonus simplex

HOST: Eastern Larch

PRESENT CONDITION:

AREA - TOTAL ACRES: undetermined

LOCATION: Statewide

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):
Not measured in 1990 but apparently at same level as 1989.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):
Heavy volume lost, but undetermined.

TREND:

PAST TO PRESENT:
Annual mortality in range of 5% per year.

FUTURE:

CONTROL PROJECTS - METHOD, MATERIAL, ACRES, COST, RESULTS:
Salvage is recommended in infested stands.

COMMENTS:
Damage in a commercial seed orchard was high systemic implants were tried to limit damage.

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): European Larch Canker

(SPECIFIC NAME): Lachnellula willkommii

HOST: Eastern & European Larch

PRESENT CONDITION: 4 new towns added to quarantine in 1989. No further additions in in 1990. Area remains relatively unchanged.

AREA (TOTAL ACRES): 6,500 (approximate)

LOCATION: Knox, Lincoln, Waldo, and Washington counties, partially.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): At the two epicenters, Cutler-Jonesboro and Friendship, infection is heavy; light to moderate elsewhere.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): No matuer tree loss has been observed, only sapling & pole size trees. Volume estimates not available.

TREND: Since 1985 the area has remained constant except for the four towns added in 1989. No major increase in size forseen. area is expected to remain as is.

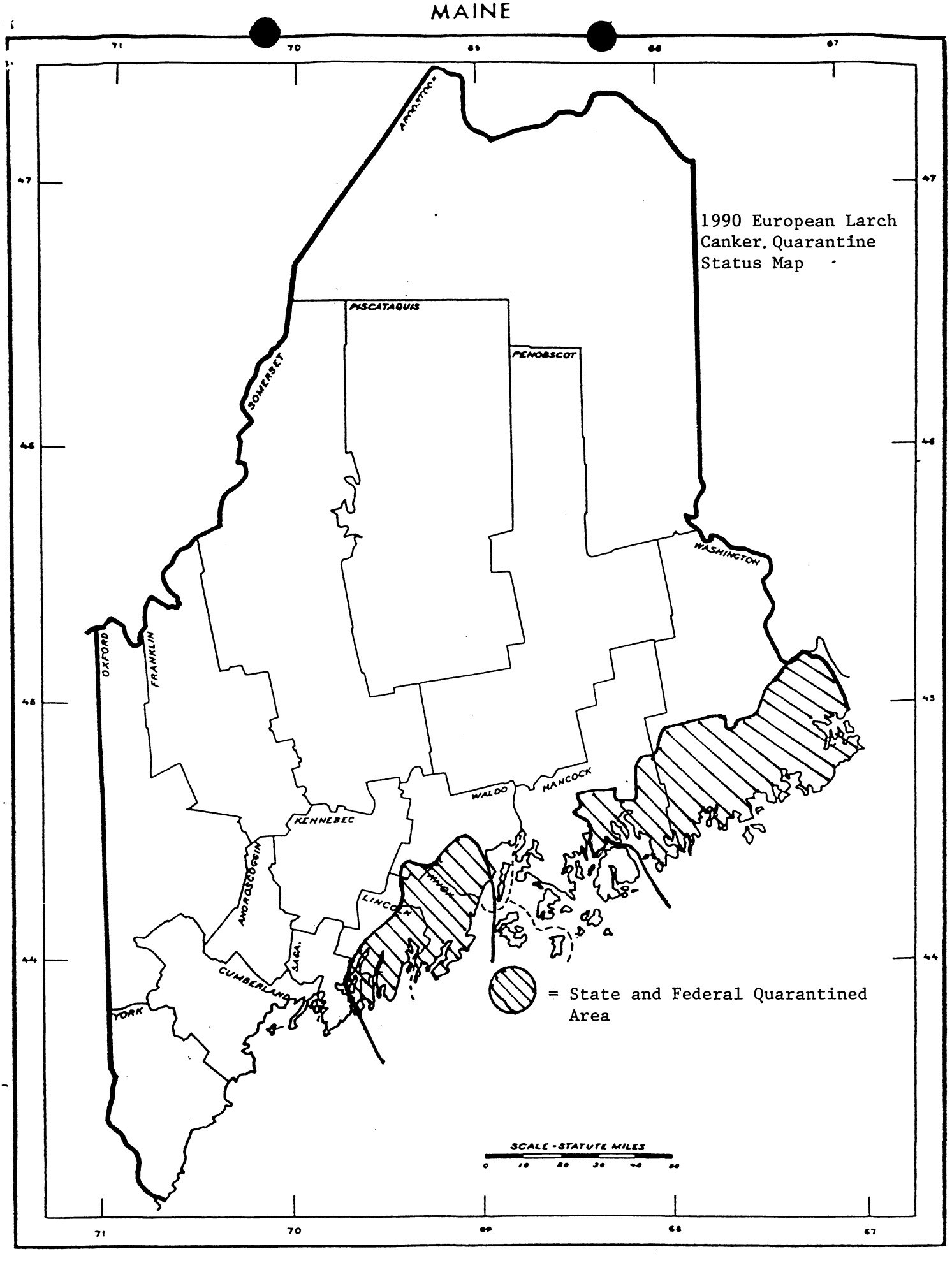
PAST TO PRESENT:

See above

FUTURE: No major increase expected..

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): State and Federal quarantine regulations in effect and are being enforced. Due to other priorities no survey was done in 1990.

COMMENTS: Larch utilizers are under compliance agreements to receive wood from the quarantined area.


MAINE
1990 European Larch Canker. Quarantine Status Map
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
KENNEBEC
WALDO
HANCOCK
ANDROSCOGGIN
LINCOLN
KNOX
SAG.
CUMBERLAND
YORK
= State and Federal Quarantined Area
SCALE - STATUTE MILES
0 10 20 30 40 50
71
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MAINE
1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Fall Webworm

(SPECIFIC NAME): Hyphantria cunea (Drury)

HOST: Many deciduous hosts

PRESENT CONDITION:

AREA (TOTAL ACRES): Locally very heavy populations

LOCATION: Statewide but heaviest in central and southwestern Maine

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Still primarily an aesthetic problem although feeding and webbing were heavy in 1990 for the third consecutive year.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Aesthetic damage and possibly some partial branch and twig mortality.

TREND:

PAST TO PRESENT: Stable at high 1989 levels and some minor extension of low populations to the north and east.

FUTURE: Not known but expected to be high again locally in 1991

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS:

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Forest Tent Caterpillar

(SPECIFIC NAME): Malacosoma disstria Hbn.

HOST: Primarily poplar but also other hardwoods

PRESENT CONDITION:

AREA (TOTAL ACRES): 0

LOCATION: 0

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Very low numbers (usually individuals) statewide

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None

TREND:

PAST TO PRESENT: Continued very low populations

FUTURE: Not known (see comments)

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: Although no significant populations are expected in 1991, we are watching the situation to our west in Quebec where heavy defoliation was reported in western parts of the Province in 1990. If conditions proceed as they have in the past with regard to outbreaks, we could possibly see an increasing problem as early as 1992.

1990 PEST CONDITIONS REPORT WORK SHEET

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PEST - (COMMON NAME): Gypsy Moth

(SPECIFIC NAME): Lymantria dispar

HOST: Primarily Red oak with a variety of both hardwood and softwood species.

PRESENT CONDITION:

AREA - TOTAL ACRES: 270,537 Acres

LOCATION: Southern and eastern Maine

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):

Light less than 30% defoliation	46,512
Moderate 31 - 60% defoliation	82,475
Heavy 61 - 100% defoliation	141,550

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):
Tree mortality is light (less than 10%) but loss of regeneration and degrade of hardwood is significant.

TREND:

PAST TO PRESENT:
Increased 34,000 Acres 1989 - 270,000 Acres 1990

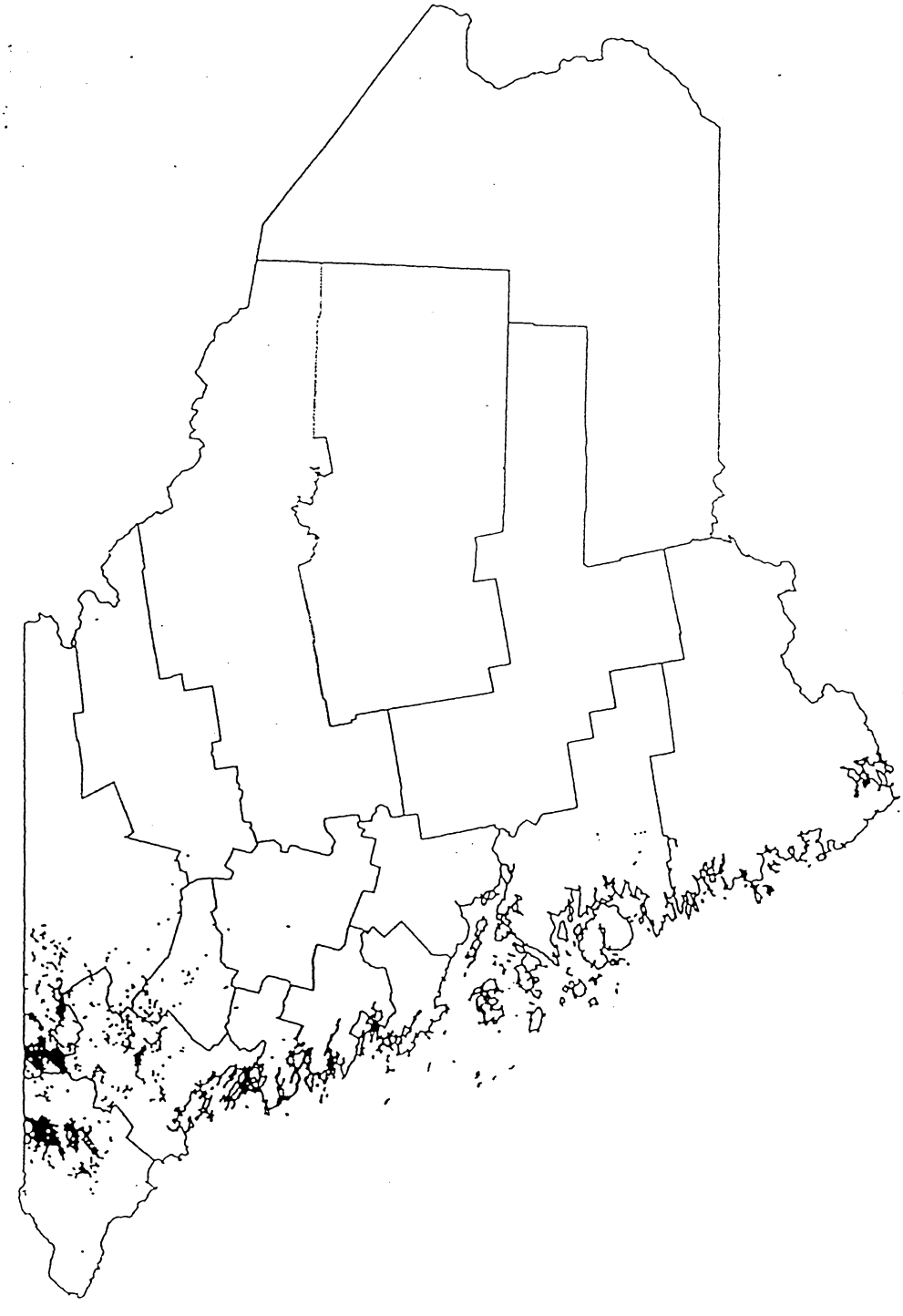
FUTURE:
Populations are expected to shift to nearby locations and maintain high acreage in 1991.

CONTROL PROJECTS - METHOD, MATERIAL, ACRES, COST, RESULTS:
Approximately 3,000 acres treated ground and aerially with B.t. in private projects.

1991 Cooperative funding has been applied for however, acreage has not yet been determined.

COMMENTS: The gypsy moth has been found in four previously uninfested towns north of the quarantine boundary. These towns are: Island Falls, West Forks Plt., Rangeley and Lower Cupsuptic Twp. These and adjoining towns have been submitted to the USDA, APHIS, PPQ for inclusion in the gypsy moth quarantine.

1990
GYPSY MOTH DEFOLIATION
IN MAINE



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1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NANE): Hemlock Looper
(SPECIFIC NAME): Lambdina fiscellaria fiscellaria

HOST: Hemlock, Balsam fir, White Spruce

PRESENT CONDITION: The hemlock looper infestation in Maine expanded and intensified in 1990 and currently has caused heavy defoliation to 20,000 acres of hemlock in southeastern Maine.

AREA (TOTAL ACRES): 20,000 acres of heavy damage to hemlock, 80,000 acres of moderate damage to hemlock and fir

LOCATION: Looper has been found nearly state wide but the heaviest damage is located in central Penobscot, southern Aroostock, northern Hancock, western Washington, and Waldo counties.

SEVERITY (INCLUDE AREAS OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): 20,000 acres heavy defoliation (30 to 80% total defoliation on hemlock) (See map). 80,000 acres of light to moderate defoliation (10 to 30% total defoliation - ground survey)

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): 300 acres of 50% or more hemlock mortality, 5,000 acres of 10% or more hemlock mortality, 100 acres of scattered fir and spruce mortality on islands near Mt. Desert Island

TREND: Increasing

PAST TO PRESENT: The increasing hemlock looper population in Maine was first discovered in 1988 and has shown a steady increase through the fall of 1990. The infestation has increased in area and intensity.

FUTURE: Preliminary egg samples processed in the fall of 1990 show high predicted looper population over a greatly expanded area. Also, some 1990 counts are several times higher than those seen during the winter of 1989-90.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): Possible control of looper damage using Bt. is being investigated.

COMMENTS: A survey method for predicting hemlock looper populations and damage on hemlock was researched in Maine by the Maine Forest Service during 1990. A preliminary egg to defoliation relationships was developed and this relationship will be studied further in 1991. The MFS also plans to establish impact plots to assess long term damage effects to hemlock due to looper.

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): A Hemlock Looper

(SPECIFIC NAME): Lambdina athasaria (Walk.)

HOST: Hemlock

PRESENT CONDITION:

AREA (TOTAL ACRES): 1,800 acres of heavy to severe defoliation

LOCATION: Several towns affected mostly north and west of Sebago Lake (western and northern Cumberland County and southern Oxford County (see Hemlock Looper Map)

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): 1,000 acres of severe defoliation (80-100%) with 25% or more mortality to hemlock. 800 acres of moderate to heavy defoliation (30-80%) with scattered mortality to intermediate and suppressed trees.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Mortality very evident (up to 25% or more) over 1,000 acres North and West of Sebago Lake. Spotty elsewhere. Dead trees have accelerated harvest plans in these areas.

TREND:

PAST TO PRESENT: Very heavy defoliation in 1989 and 1990

FUTURE: Not known but at least moderate populations are expected in or near areas previously defoliated.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): Salvage cuts of defoliated hemlock have been conducted in the more heavily damaged areas. Possibly as much as 1,000 acres was harvested North and West of Sebago Lake in 1990.

COMMENTS: The habits of this species are not fully understood making it difficult to separate this species from L. fiscellaria. Lambdina athasaria appears to be primarily southern but mixes with L. fiscellaria throughout. Populations of L. athasaria fade out north and east of Sebago Lake. This species seems to favor hemlock over other softwoods more than L. fiscellaria.

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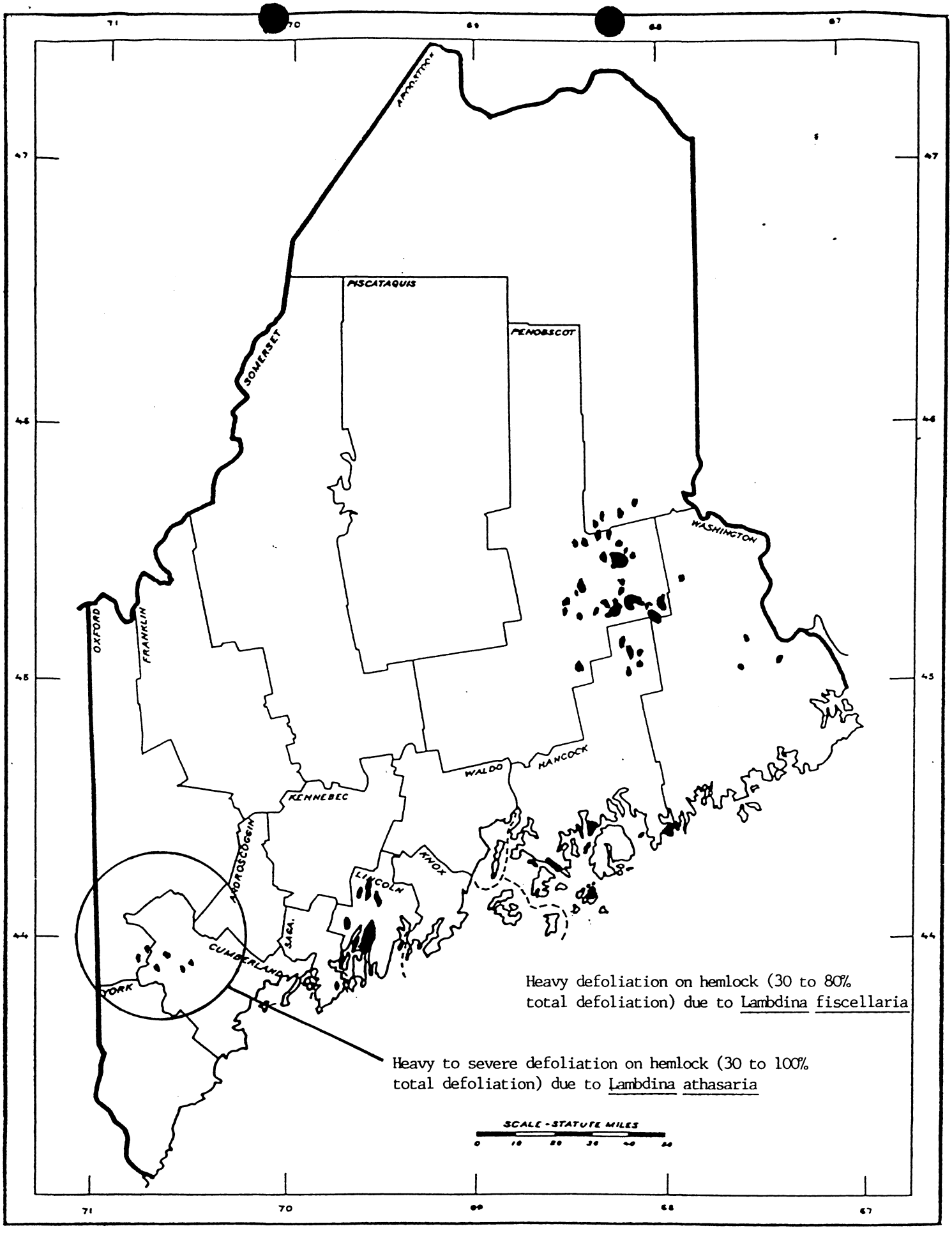
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WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAGA.
CUMBERLAND
YORK
Heavy defoliation on hemlock (30 to 80% total defoliation) due to Lambdina fiscellaria
Heavy to severe defoliation on hemlock (30 to 100% total defoliation) due to Lambdina athasaria
SCALE - STATUTE MILES
0
10
20
30
40
50

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Large Aspen Tortrix

(SPECIFIC NAME): Choristoneura conflictana (Walker)

HOST:

PRESENT CONDITION:

AREA (TOTAL ACRES): 12,000 acres ±

LOCATION: Near Jackman (Somerset County)

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Moderate to severe defoliation

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None

TREND:

PAST TO PRESENT: Up strikingly across central Maine but especially in western portions near Jackman.

FUTURE: Not known although at least some defoliation is expected again in 1991.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None.

COMMENTS: Extremely heavy moth flights caused some concern in the Jackman area in early July. Moths were very abundant around outdoor lighting.

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Late Season Hardwood Defoliator Complex

(SPECIFIC NAME): Numerous species

HOST: Northern Hardwoods

PRESENT CONDITION:

AREA (TOTAL ACRES): Statewide

LOCATION: "

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Down strikingly in 1990 (see comments)

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None reported

TREND:

PAST TO PRESENT: Down sharply

FUTURE: Not known

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: This complex of more than 25 species which made its surprising appearance first in 1987 and peaked in 1988 with 120,000 acres in damage dropped sharply in intensity in 1990. Most of the 1990 damage was attributable to the variable oak leaf caterpillar (see discussion under that species). The birch sawfly (Arge pectoralis) and pale tussock (Halysidota tessellaris) were also abundant but damage was minimal by these species. The orange-humped mapleworm (Symmerista leucitys) all but disappeared.

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1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Maple Leafroller

(SPECIFIC NAME): Sparganothus acerwoiana (Mackay)

HOST: Red Maple

PRESENT CONDITION:

AREA (TOTAL ACRES): 20,000 - 30,000 acres

LOCATION: South Central Hancock County (see map)

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Light to moderate defoliation

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Some stress related mortality observed on individual older trees.

TREND:

PAST TO PRESENT: Down in severity in 1990 from 1989 levels but some expansion of the infested area.

FUTURE: Populations expected to continue downward

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS:

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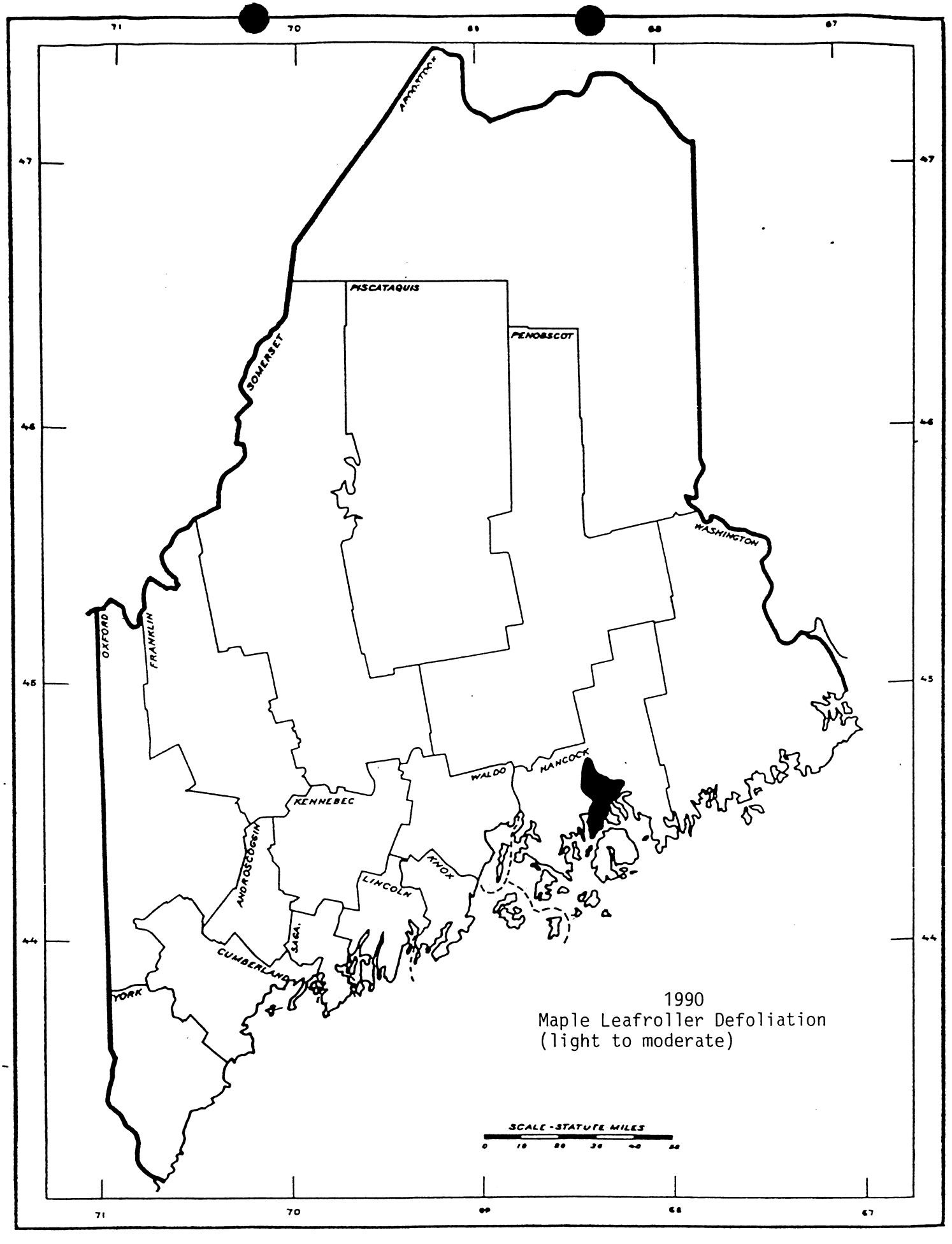
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OXFORD
FRANKLIN
KENNEBEC
WALDO
HANCOCK
ANDROSCOGGIN
KNOX
LINCOLN
SAGA.
CUMBERLAND
YORK
1990
Maple Leafroller Defoliation
(light to moderate)
SCALE - STATUTE MILES
0
10
20
30
40
50

1990 PEST CONDITIONS REPORT WORK SHEET

MAINE

PEST - (COMMON NAME): Pales weevil

(SPECIFIC NAME): Hylobius pales

HOST: Pines, spruces and balsam fir

PRESENT CONDITION:

AREA - TOTAL ACRES: unknown

LOCATION: Statewide

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):
Localized - known to be severe on 10 Acres.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):
Required control in Dover area - severe damage to balsam fir planting.

TREND:

PAST TO PRESENT:
Highly variable due to specific site requirements.

FUTURE:

CONTROL PROJECTS - METHOD, MATERIAL, ACRES, COST, RESULTS:
10 Acres controlled using Lindane with permit from Board of pesticides Control, Maine Department of Agriculture.

COMMENTS:

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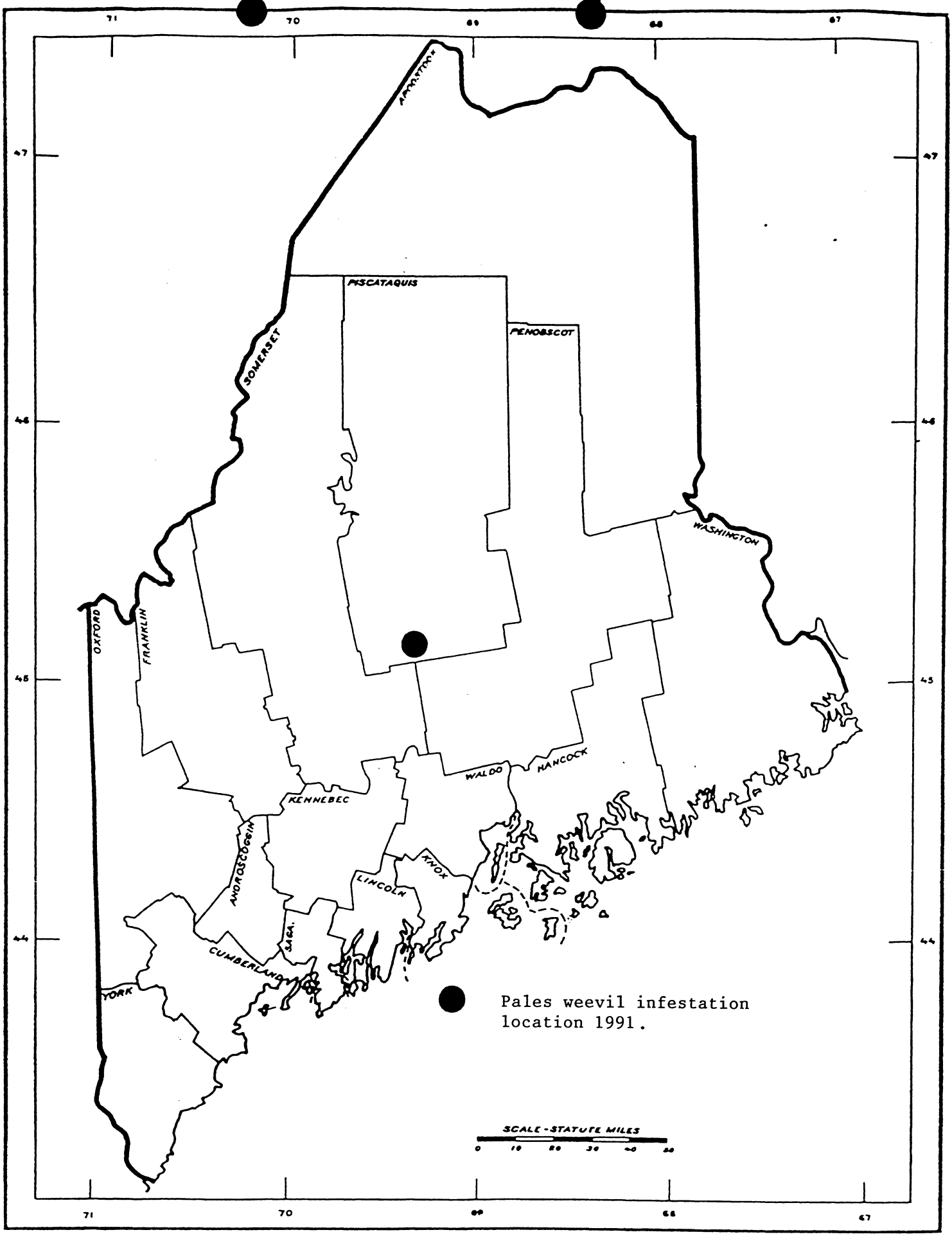
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Pales weevil infestation location 1991.
SCALE - STATUTE MILES
0 10 20 30 40 50

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Pear Thrips

(SPECIFIC NAME): Taeniothrips inconsequens (Uzel)

HOST: Sugar Maple

PRESENT CONDITION:

AREA (TOTAL ACRES): 0

LOCATION: Statewide

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): None to trace

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None

TREND:

PAST TO PRESENT: Stable at very low endemic levels

FUTURE: Not known

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None.

COMMENTS: Individual trees with moderate numbers of thrips but very light injury were observed in southwestern Maine.

Nine (9) sites (see map) were sampled this fall for overwintering thrips. Samples are being evaluated at the Univ. of Vermont. These sites were numbered for future monitoring.

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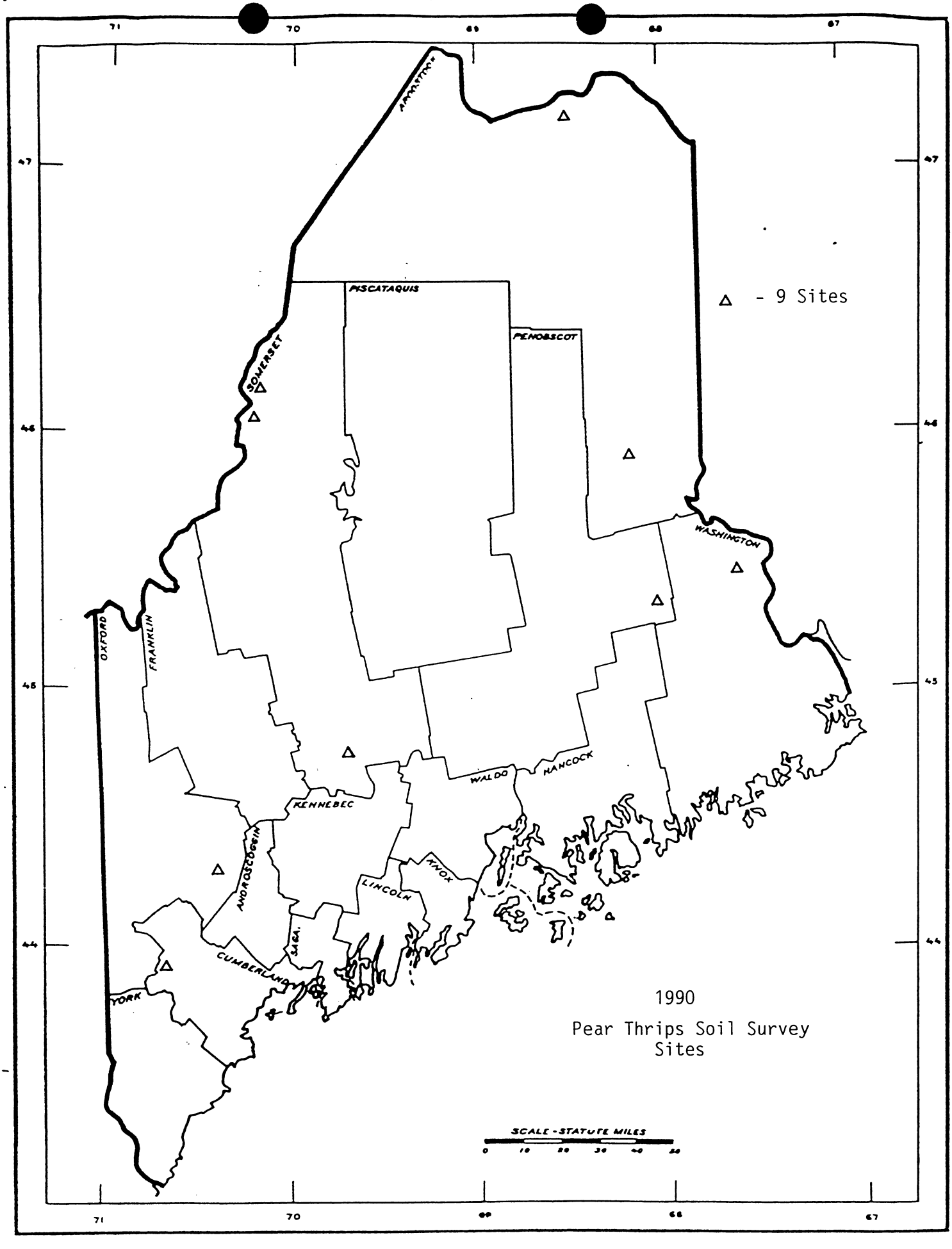
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YORK
△ - 9 Sites
1990
Pear Thrips Soil Survey
Sites
SCALE - STATUTE MILES
0 10 20 30 40 50

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Pinewood Nematode

(SPECIFIC NAME): Bursaphelenchus xylophilus

HOST: Confirmed in Maine from White Pine, Red Pine and Balsam Fir

PRESENT CONDITION: Total extent unknown at this time. 15 locations found infected.

AREA (TOTAL ACRES): Unknown at this time

LOCATION: Found in 9 counties of the state.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Unknown

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): No attributal losses to pinewood nematode

TREND:

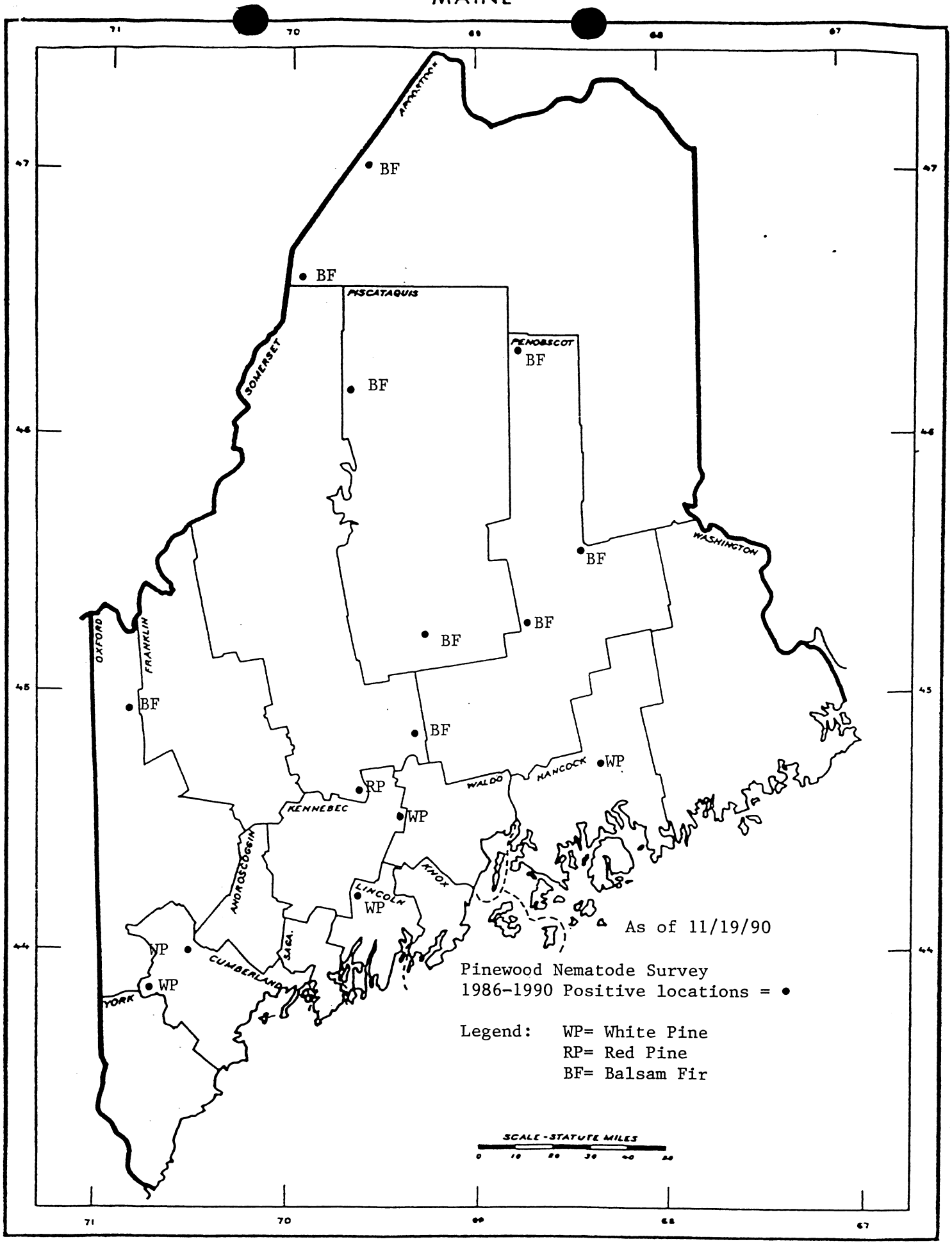
PAST TO PRESENT: Since 1986 a survey has been done but due to other priorities no survey was done in 1990.

FUTURE: Further sampling will likely find other areas infected, but potential hazard is considered minimal at this time.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: Survey procedures expected to be reinstituted in 1991

MAINE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CUMBERLAND
YORK
BF
RP
WP
As of 11/19/90
Pinewood Nematode Survey
1986-1990 Positive locations = •
Legend: WP= White Pine
RP= Red Pine
BF= Balsam Fir
SCALE - STATUTE MILES
0 10 20 30 40 50

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Satin Moth

(SPECIFIC NAME): Leucoma salicis (L.)

HOST: Aspen especially big tooth aspen

PRESENT CONDITION:

AREA (TOTAL ACRES): Less than 50 acres total, mapped

LOCATION: Hancock (Hancock County), Addison and Jonesboro (Washington County) (see map).

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Heavy defoliation of small isolated stands or clumps of trees. The largest area was probably less than 30 acres in size in Jonesboro.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None

TREND:

PAST TO PRESENT: Up in 1990

FUTURE: Not known

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: Parasites fairly abundant in areas checked.

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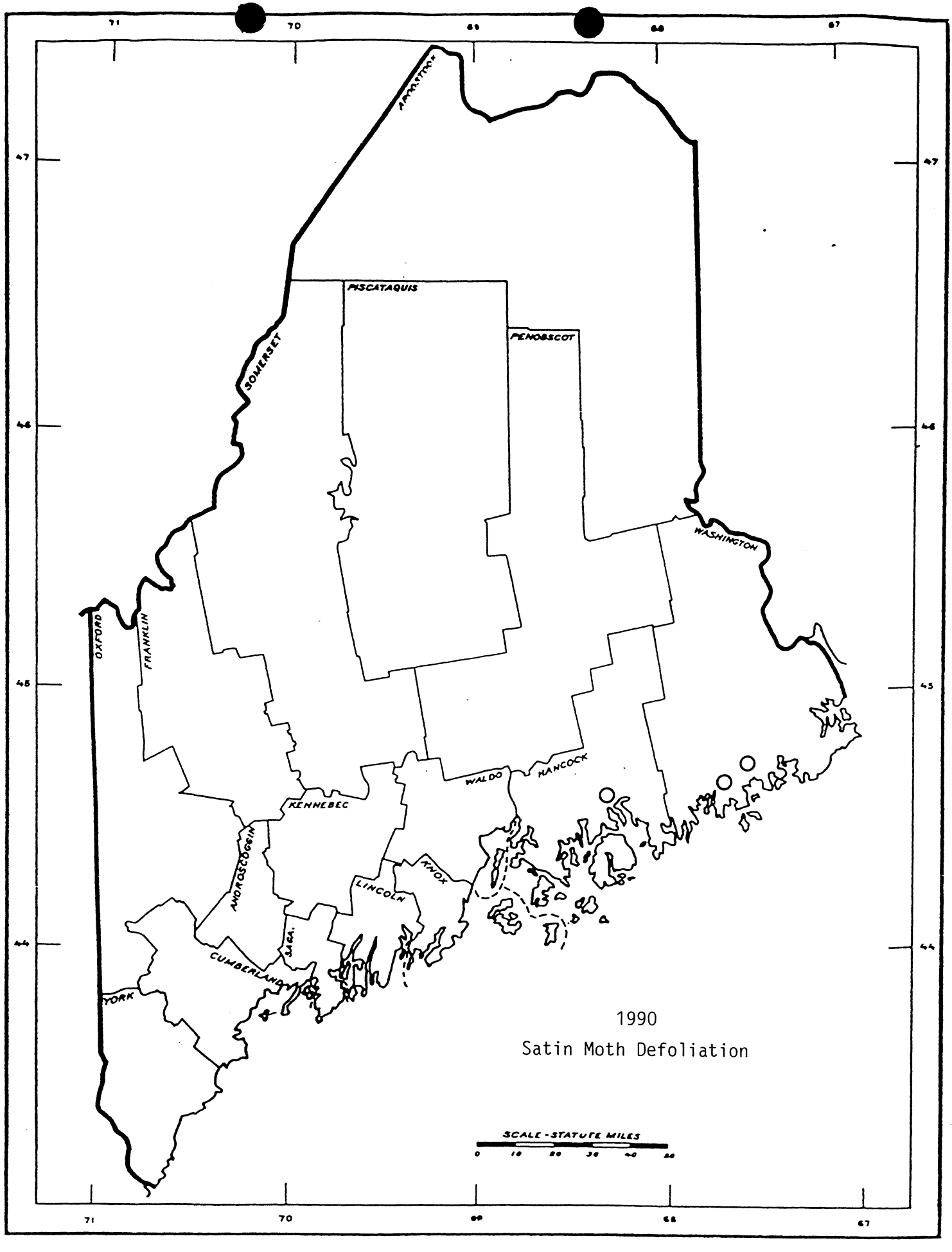
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CUMBERLAND
YORK
1990
Satin Moth Defoliation
SCALE - STATUTE MILES
0 10 20 30 40 50

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NANE): Spruce Beetle
(SPECIFIC NAME): Dendroctonus rufipennis

HOST: White Spruce, Red Spruce, occasionally Black Spruce

PRESENT CONDITION: Spruce beetle is now found throughout the northern half of Maine wherever stands of old growth, white and red spruce persist.

AREA (TOTAL ACRES): 9,000 acres of confirmed spruce beetle activity have been located

LOCATION: Infested trees are found throughout the northern half of Maine. The most extensive areas found are near the Allagash River and near Portage in the northeast

SEVERITY (INCLUDE AREAS OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): 9,000 acres of heavy infestation (more than 25% of the spruce stems), scattered individual trees and small groups of trees are also infested.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): In the areas of heavy infestation 50% or more of the large (> 15" DBH) white spruce have been killed. Areas in western Maine have suffered a 50% or greater loss of red spruce over 12" DBH. Most large infested areas have been or are being salvaged.

TREND: Stable

PAST TO PRESENT: The current infestation began in 1985 and has increased in size and intensity since. This increase has not been steady but rather has experienced several surges in activity.

FUTURE: The future trend of the beetle infestation is unknown but damage in some stands seems to have peaked. New areas, however, are located annually..

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): Salvage cutting. Some stands are remote or are in preservers and will not be salvaged.

COMMENTS: The Maine Forest Service has surveyed the spruce beetle infestation extensively and has reported its findings to affected landowners. Many landowner representatives have been trained by the MFS in the identification and management of spruce beetle. Many landowners are now able to use color infared photography to precisely locate beetle damage. Active cooperation between landowners and the MFS has resulted in effective salvage and utilization of most beetle killed timber.

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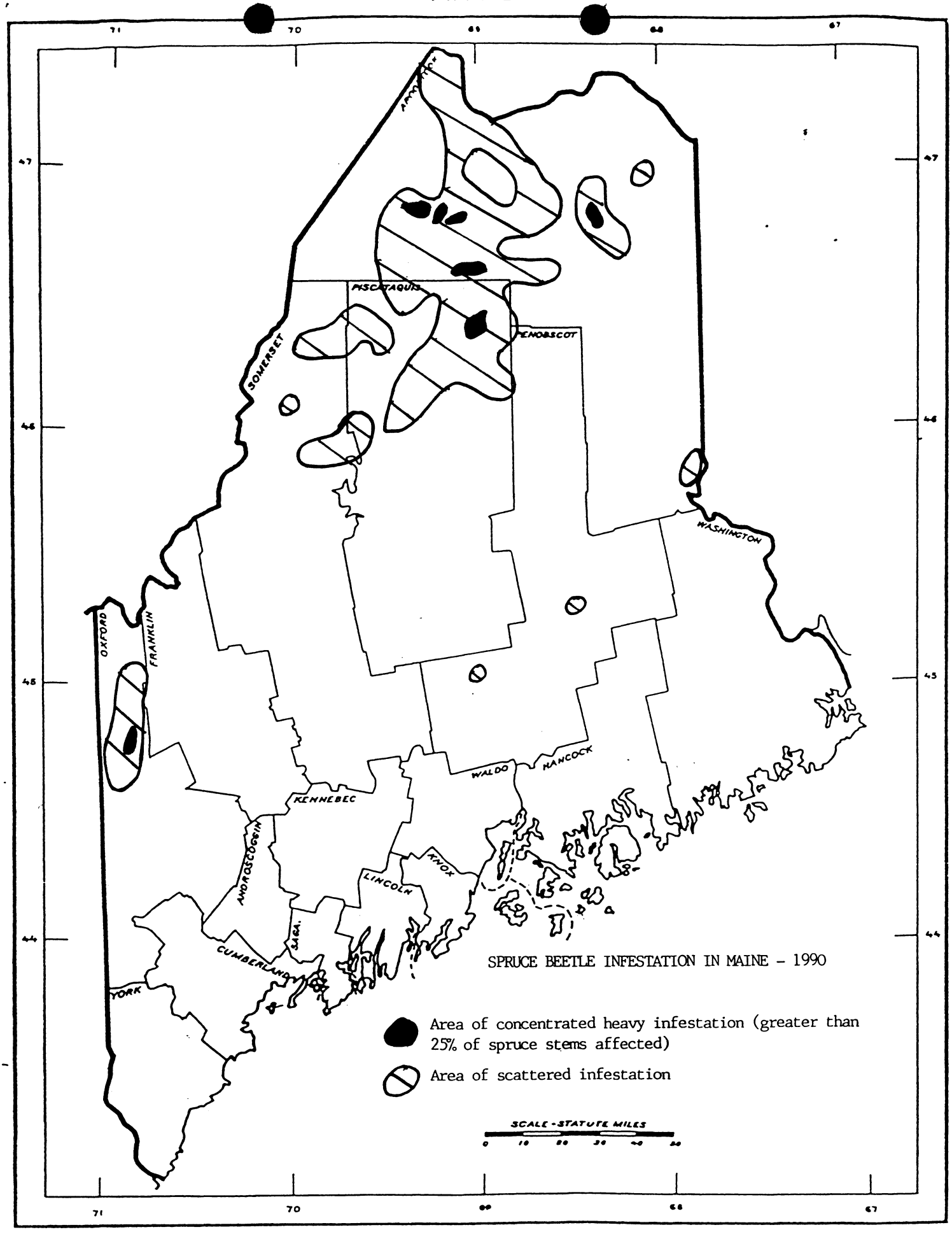
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CUMBERLAND
YORK
SPRUCE BEETLE INFESTATION IN MAINE - 1990
Area of concentrated heavy infestation (greater than 25% of spruce stems affected)
Area of scattered infestation
SCALE - STATUTE MILES
0
10
20
30
40
50

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NANE): Spruce Budworm

(SPECIFIC NAME): Choristoneura fumiferana (Clem.)

HOST: Balsam fir, Red spruce, White spruce, Black spruce, Hemlock

PRESENT CONDITION: The spruce budworm infestation in Maine has collapsed and populations are at or near endemic levels

AREA (TOTAL ACRES): No budworm defoliation was detected in Maine in 1990

LOCATION: Trace feeding and larvae were found in Waltham in Hancock County and in Steuben and Jonesboro in Washington County

SEVERITY (INCLUDE AREAS OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Very small patches of trace (0-5%) damage were found on the southeast coast.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): New host mortality appears secondary in nature due to other agents.

TREND: Declining

PAST TO PRESENT: The trend since 1985 has been a sharp decline. The last remaining outbreak area in the southeast has now also collapsed.

FUTURE: This pest is expected to remain at endemic levels for some time.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: A network of 20 budworm pheromone tray locations were established throughout the state's spruce fir type. These 60 traps caught a total of 4 budworm moths. Also, Maine's statewide network of light traps caught very few budworm. A total of 107 moths were caught in light traps and 3/4 of these came from those traps in Steuben in Washington County. Budworm population status is not likely to change in 1990.

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NANE): Stillwell's Syndrome (Red Fir)

(SPECIFIC NAME):

HOST: Balsam Fir

PRESENT CONDITION: Stillwell's syndrome or "red fir" stabilized at relatively low 1989 levels in most of Maine in 1990. However, an area in southern and central Hancock County showed a sharp increase in the number of trees affected in 1990.

AREA (TOTAL ACRES): 500,000 acres of increased occurrences , very low levels on 6.5 million acres

LOCATION: Increase occurrence was noted in central and southern Hancock County in an area from Waltham south to the coast.

SEVERITY (INCLUDE AREAS OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Scattered individual dead trees, less than 1% of fir affected in most of Maine, up to 5% of fir affected in portion of southern Hancock County.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Losses continue to be in the form of individual stems in and near areas heavily damaged by past spruce budworm feeding. After the needles drop from affected trees mortality from Stillwell's can not be differentiated from budworm mortality.

TREND: Stable in most of the State

PAST TO PRESENT: In northern and central Maine the incidence of Stillwell's has gradually decreased since the mid 80's. The problem is now more common in the southeast where spruce budworm persisted into the late 80's.

FUTURE: Stillwell's will probably continue to kill a significant number of fir stems in the southeast for 3 to 5 years but, its significance is much reduced in northern and central Maine.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: As in the past all Stillwell's trees examined were found to have Armillaria mellea infection. The portion of Hancock County which showed increased Stillwell's activity in 1990 was the last residual budworm infestation in Maine. This area has now collapsed and the incidence of Stillwell's syndrome is likely to follow within 3 to 5 years.

1990 PEST CONDITIONS REPORT WORK SHEET

MAINE

PEST - (COMMON NAME): Sugar Maple Decline

(SPECIFIC NAME):

HOST: Sugar Maple

PRESENT CONDITION:

AREA - TOTAL ACRES: 2,625,800 Acres

LOCATION: Western portion of the State.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):
Less than 10% crown dieback in 18 plots maintained to monitor health.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):
Insignificant

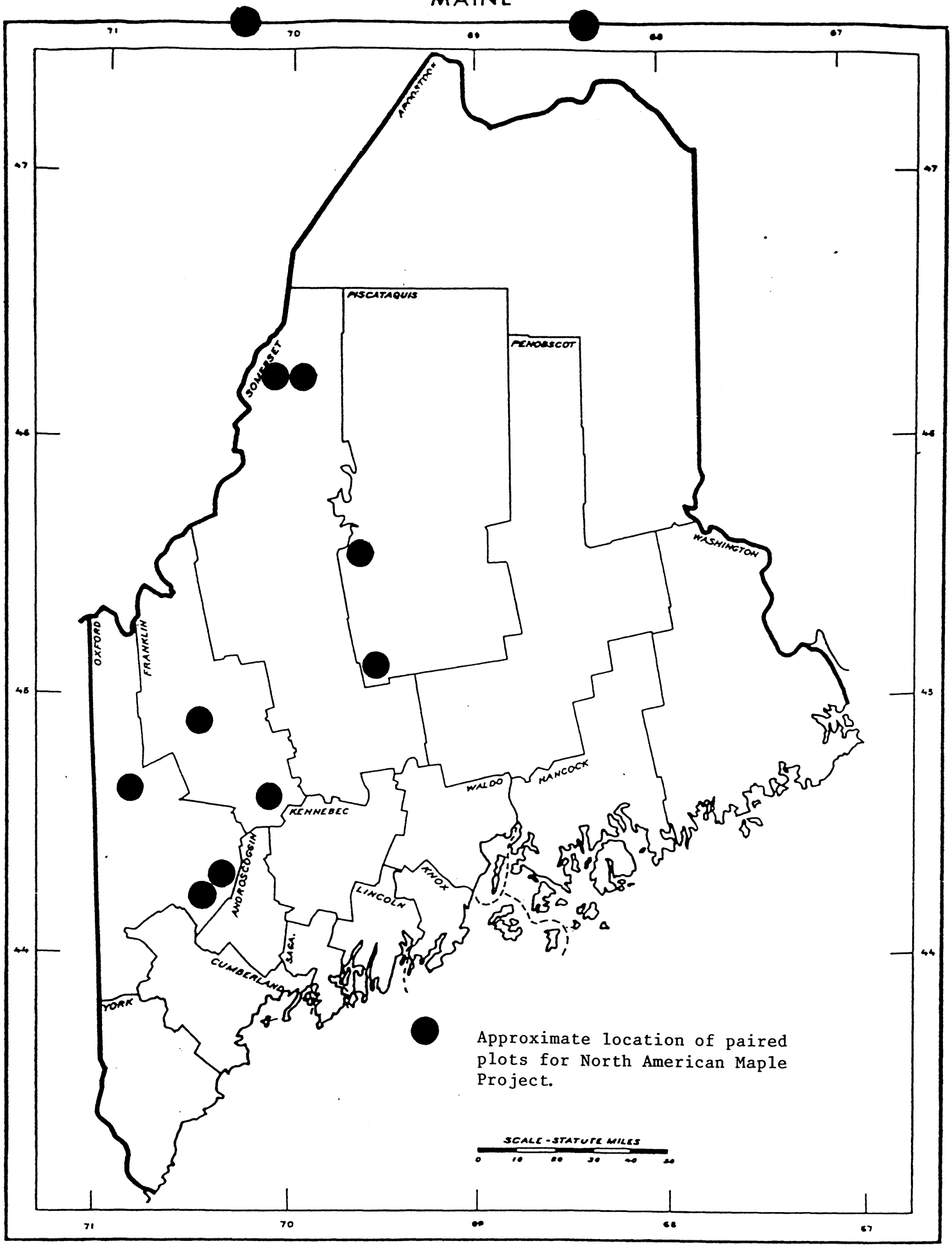
TREND:

PAST TO PRESENT: Static

FUTURE:

CONTROL PROJECTS - METHOD, MATERIAL, ACRES, COST, RESULTS:
None required

COMMENTS:
North American Maple Project plots maintain to monitor long term condition within sugar maple stands.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CUMBERLAND
YORK
Approximate location of paired plots for North American Maple Project.
SCALE - STATUTE MILES
0
10
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30
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MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Variable Oakleaf Caterpillar

(SPECIFIC NAME): Lochmaeus manteo Doubleday

HOST: Primarily Beech

PRESENT CONDITION:

AREA (TOTAL ACRES): 14,000 acres of moderate to heavy damage. Possibly 100,000 acres of spotty light defoliation.

LOCATION: Eastern Maine primarily but also some in west central Maine (see map)

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): 14,000 acres of moderate to heavy damage affecting all age classes. Possibly up to 100,000 acres of defoliation of varying intensity but which appeared heaviest on scattered and understory beech which was difficult to detect from the air.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Not known. Certainly another stress factor for beech.

TREND:

PAST TO PRESENT: Down both in extent and severity.

FUTURE: Expected to continue downward.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None.

COMMENTS: In the past, this species has usually been associated with the orange-humped mapleworm. Their combined defoliation was easy to map with aerial surveys as it was more continuous. In 1990 the orangehumped mapleworm had all but disappeared and defoliation was much less striking.

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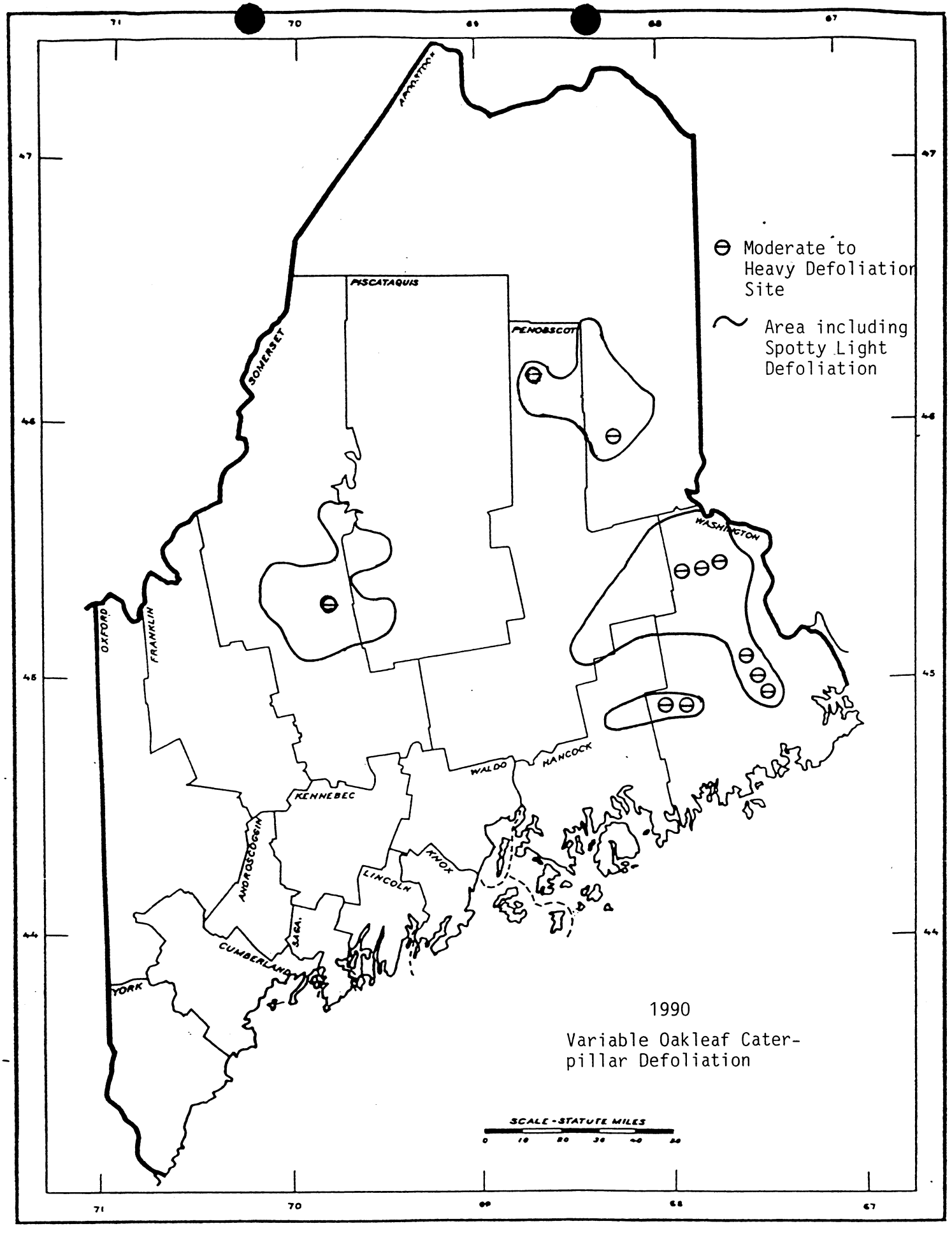
Moderate to Heavy Defoliation Site
Area including Spotty Light Defoliation
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HANCOCK
KENNEBEC
ANDROSCOGGIN
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LINCOLN
SAG.
CUMBERLAND
YORK
1990
Variable Oakleaf Caterpillar Defoliation
SCALE - STATUTE MILES
0 10 20 30 40 50

1990 PEST CONDITIONS REPORT WORK SHEET

MAINE

PEST - (COMMON NAME): White Birch Decline

(SPECIFIC NAME):

HOST: White birch

PRESENT CONDITION:

AREA - TOTAL ACRES: 34,300 Acres/Rangeley
49,400 Acres/Washington County

LOCATION: Rangelet lakes region and Washington County

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):
75% of the white birch surveyed in the Rangeley area had dieback within the crown; a mean of 2% new tree mortality was recorded. 94% of the white birch surveyed in Washington County had die back within the crown; All percentages are based on Basal Area within stands.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):
Recent tree mortality in the Rangeley region had a mean of 2% of the basal area.
Recent tree mortality in the Washington County area had a mean of 5% basal area.

TREND:

PAST TO PRESENT:
The decline has continued since 1987 and there is no reason to anticipate any change.

FUTURE:

CONTROL PROJECTS - METHOD, MATERIAL, ACRES, COST, RESULTS:
None known - harvesting has taken place in some areas.

COMMENTS:

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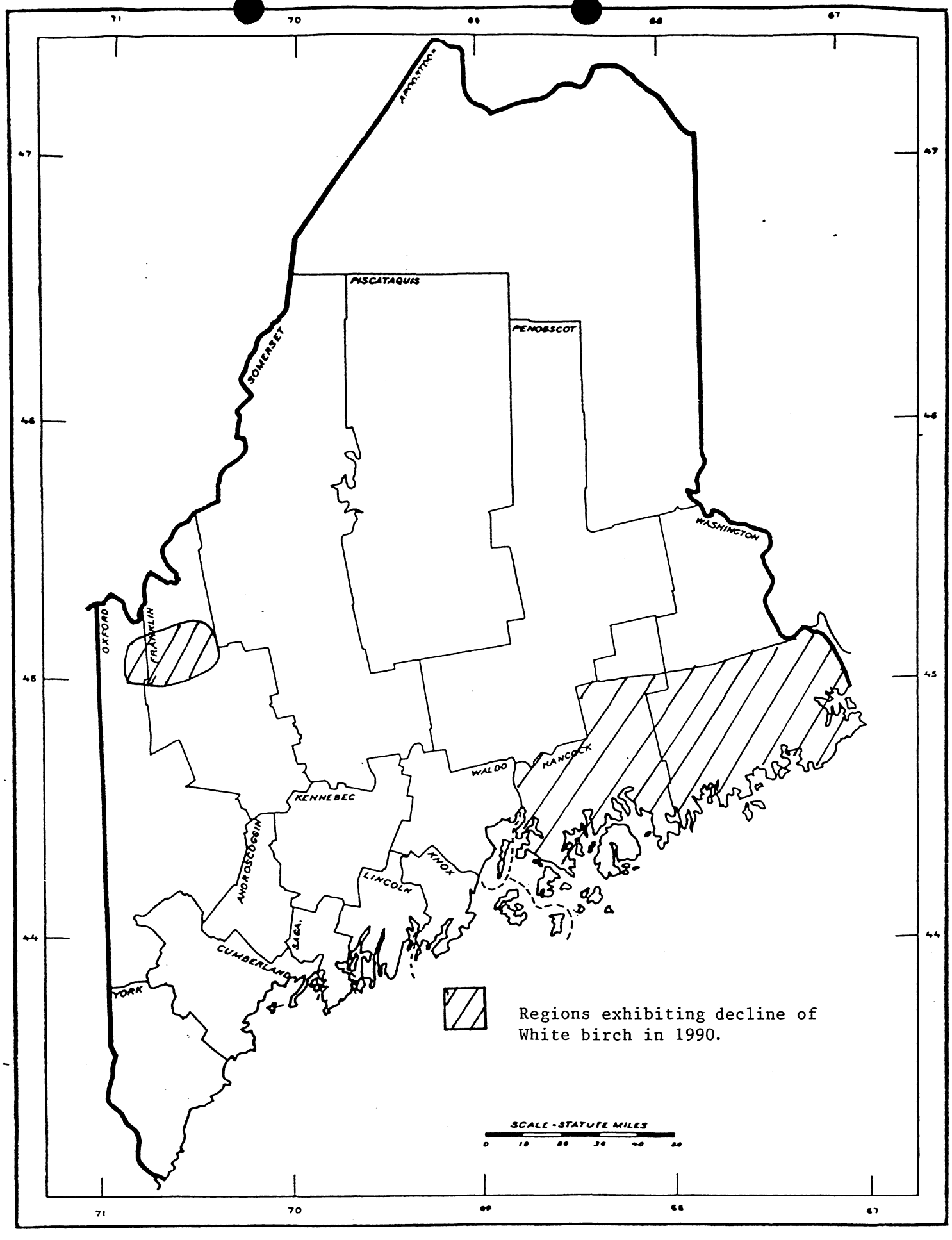
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Regions exhibiting decline of White birch in 1990.
SCALE - STATUTE MILES
0 10 20 30 40 50

1990 PEST CONDITIONS REPORT WORK SHEET

MAINE

PEST - (COMMON NAME): White Pine Weevil

(SPECIFIC NAME): Pissodes strobi (Peck)

HOST: Pines and Spruces

PRESENT CONDITION:

AREA - TOTAL ACRES: 418,900 Acres

LOCATION: Statewide

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):
Uncontrolled acres (95% of total) average 20% attack.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):
Reductions in growth is significant. Greatest monetary loss due to loss of sawlogs. Resulting pulpwood values are approximately 7% of sawlog value.

TREND:

PAST TO PRESENT:
Damage is expected to remain in the 10-40% infested range within stands.

FUTURE:

CONTROL PROJECTS - METHOD, MATERIAL, ACRES, COST, RESULTS:
Dimilin 4F has been found to be effective at 1-2 oz. AI/ac. Registration is pending.

COMMENTS:

MAINE
1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Annosus Root Rot

(SPECIFIC NAME): Caused by Heterobasidion annosum

HOST: Red Pine, White Pine, Norway Spruce

PRESENT CONDITION: Three new infestations were detected in 1989.

AREA (TOTAL ACRES): Fomes holes are present in red pine plantations with total pine acreage of about 1,000 acres. Within these plantations, areas of tree mortality account for about 25 total acres (the area of fomes holes themselves).

LOCATION: Statewide, except for Aroostook, Hancock, Kennebec, Knox, Sagadahoc and Washington Counties.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Light to moderate, with openings in stands enlarging gradually.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Not quantified

TREND:

PAST TO PRESENT: Gradually increasing

FUTURE: Gradually increasing

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): Stump treatment with borax at time of thinnings is recommended to landowners.

COMMENTS: The significance of this disease in Maine is difficult to assess. We recommend stump treatment as a preventative measure, but are not sure that this practice is cost effective.

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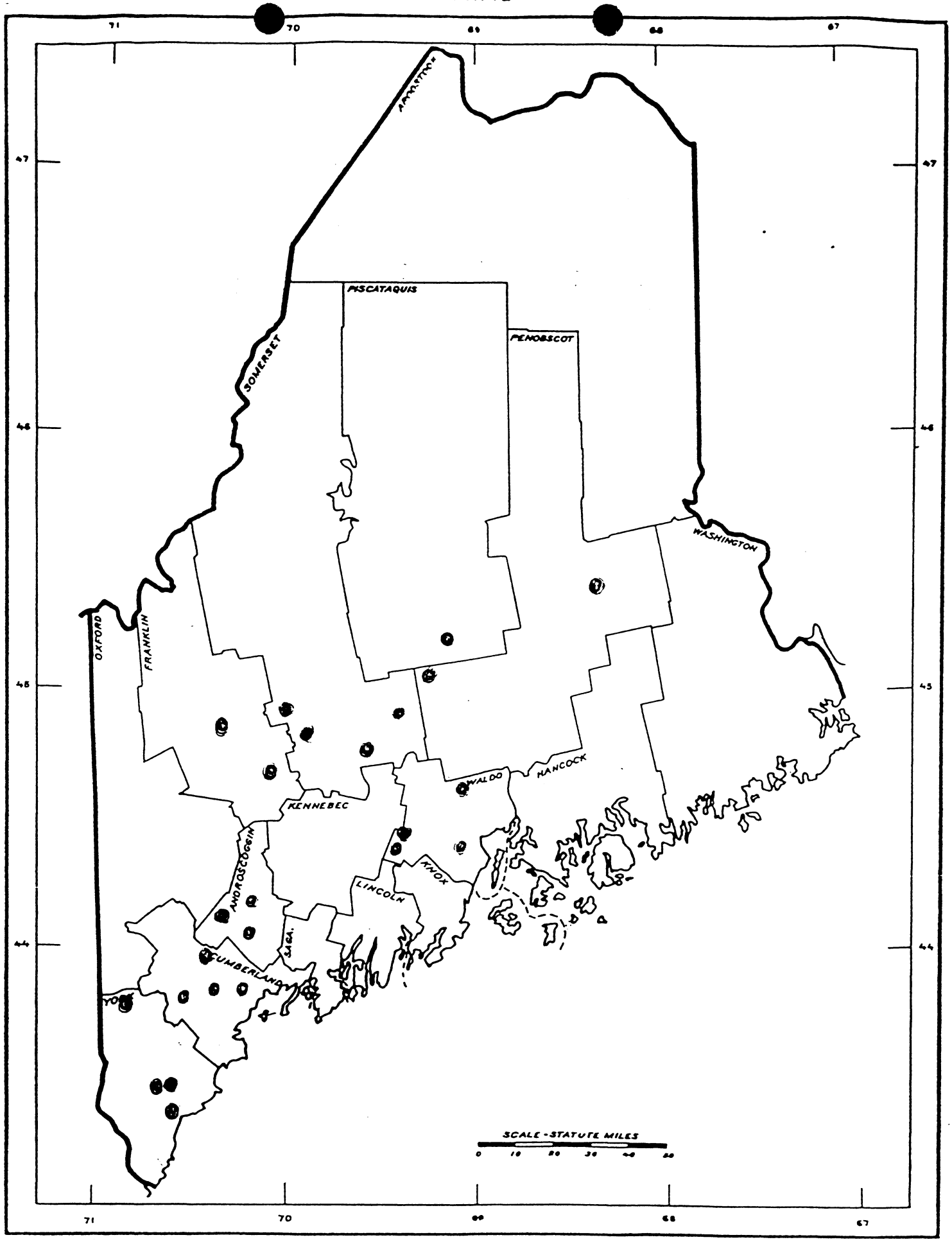
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SAGA.
CUMBERLAND
YORK
SCALE - STATUTE MILES
0 10 20 30 40 50

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Ash Dieback and Decline

(SPECIFIC NAME): Cause unknown

HOST: Brown Ash

PRESENT CONDITION:

AREA (TOTAL ACRES): 1,500 (estimated)

LOCATION: Aroostook County, especially along streams and wet areas

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Severe dieback and mortality is characteristic of most affected areas.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Not quantified

TREND: Much more severe this year, expected to continue severe in 1991.

PAST TO PRESENT:

FUTURE:

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: This problem first came to our attention last year, but advanced stages of decline indicate that it has been a problem here for some time.

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Balsam Fir Needle Rusts

(SPECIFIC NAME): Caused by several genera of rust fungi

HOST: Balsam Fir

PRESENT CONDITION: Needle rust incidence seemed to be less pronounced in 1990 than in 1989.

AREA (TOTAL ACRES):

LOCATION: Statewide

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Light

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Marketability of plantation fir for Christmas trees was not seriously affected this year.

TREND: Christmas tree growers are becoming increasingly aware of this problem and are systematically eradicating alternate host plants.

PAST TO PRESENT:

FUTURE:

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): Control of alternate hosts by growers has been effective. Glyphosate and asulam are the most commonly used herbicides to control alternate host species.

COMMENTS:

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST **(COMMON NAME):** Christmas Tree Chlorosis

(SPECIFIC NAME): Manganese deficiency

HOST: Balsam Fir

PRESENT CONDITION:

AREA (TOTAL ACRES): 50 (est.)

LOCATION: China, Norridgewock, Searsmont

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Heavy (needle loss) - 5 acres
Moderate (needle chlorosis) - 45 acres

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Unsaleable trees - $50,000

TREND: Increasing

PAST TO PRESENT:

FUTURE:

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: High soil pH is probably a contributing factor.

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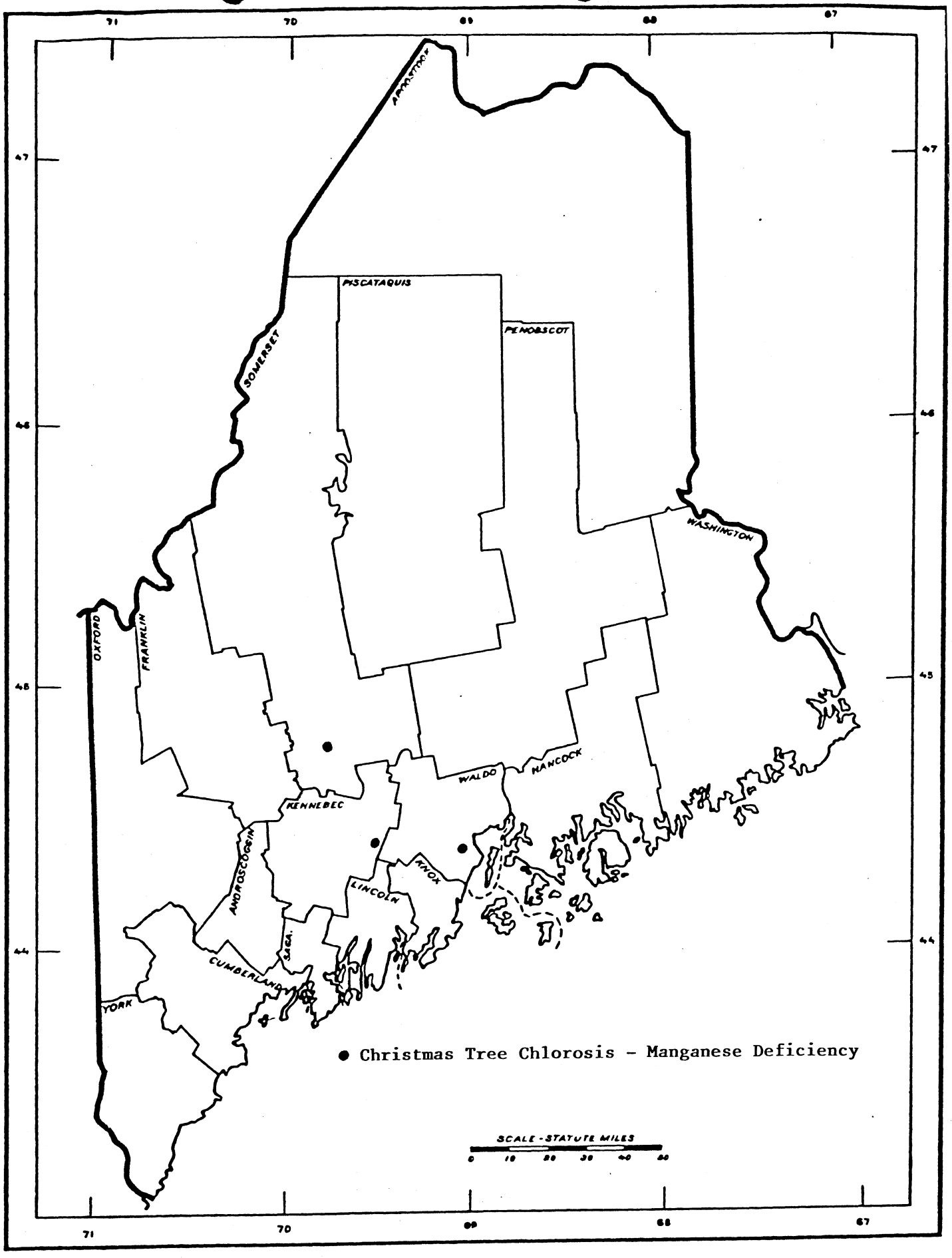
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CUMBERLAND
YORK
● Christmas Tree Chlorosis - Manganese Deficiency
SCALE - STATUTE MILES
0 10 20 30 40 50

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Pine - Pine Gall Rust

(SPECIFIC NAME): Endocronartium harknessii

HOST: Scots Pine and Jack Pine (Steuben only)

PRESENT CONDITION:

AREA (TOTAL ACRES): 50 ± Scots Pine
100 ± Jack Pine

LOCATION: 119 MD, Farmington, Mt. Vernon and Steuben (Jack Pine only)

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Light - 45; moderate - 5 (Scots Pine)
Moderate to severe - 100 acres (Jack Pine)

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Generally light; some branch mortality, but a few seriously infected Christmas trees were destroyed. Loss estimated to be about $1,000. Some mortality of young jack pine in Steuben.

TREND: Static

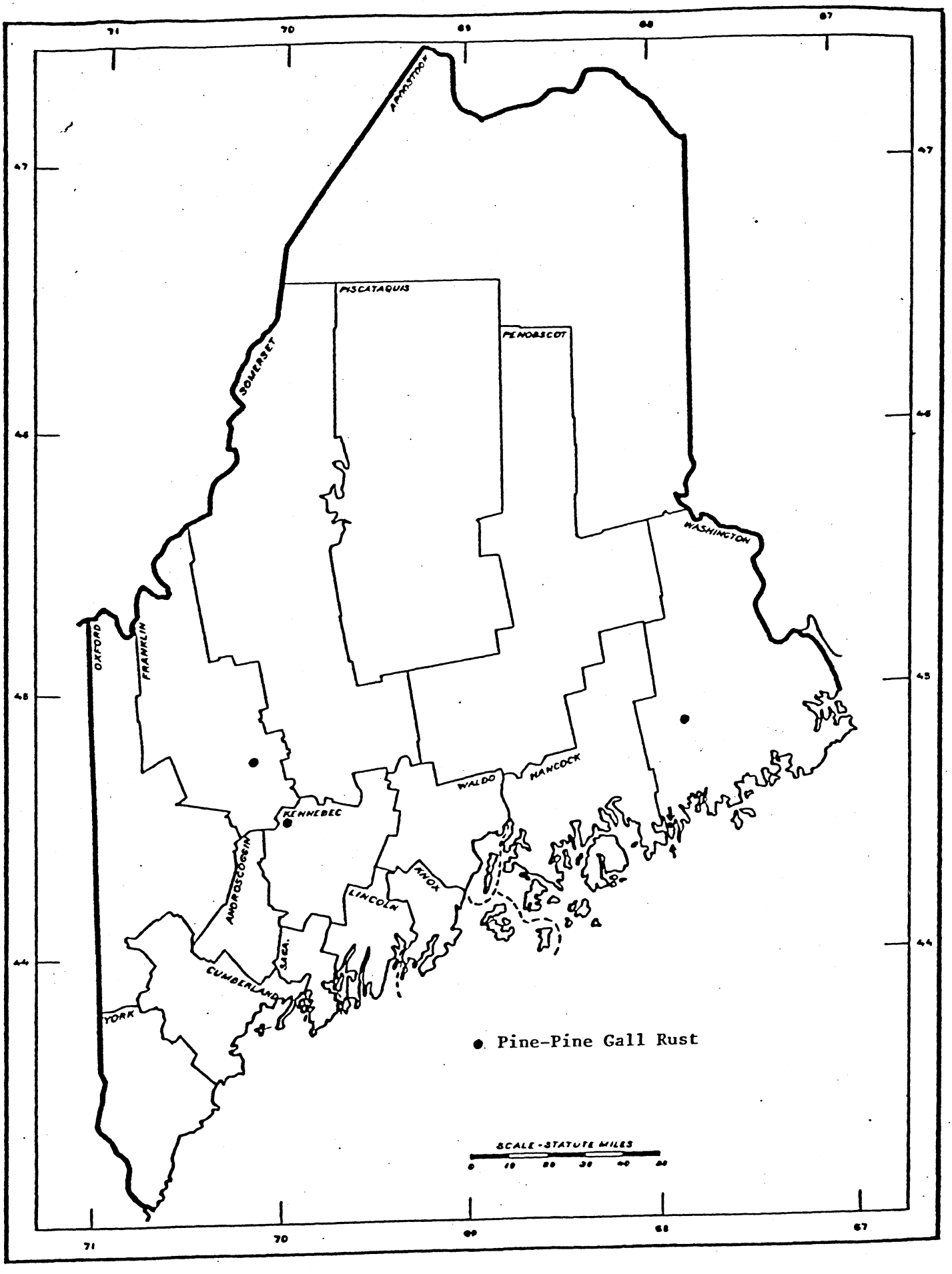
PAST TO PRESENT:

FUTURE:

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS):

COMMENTS: The jack pine in Steuben has been infected for some time and galls are very abundant on some trees, on both branches and main stems. This area is beginning to undergo development stimulating more concern for the aesthetic aspect of the problem.

MAINE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● Pine-Pine Gall Rust
SCALE - STATUTE MILES
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MAINE
1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Scleroderris Canker

(SPECIFIC NAME): Caused by Ascocalyx abietina

HOST: Red Pine

PRESENT CONDITION:

AREA (TOTAL ACRES): 1

LOCATION: Eustis

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Scattered infections on trees at a previously recorded site.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): No significant mortality

TREND: Static; no new infection sites reported this year.

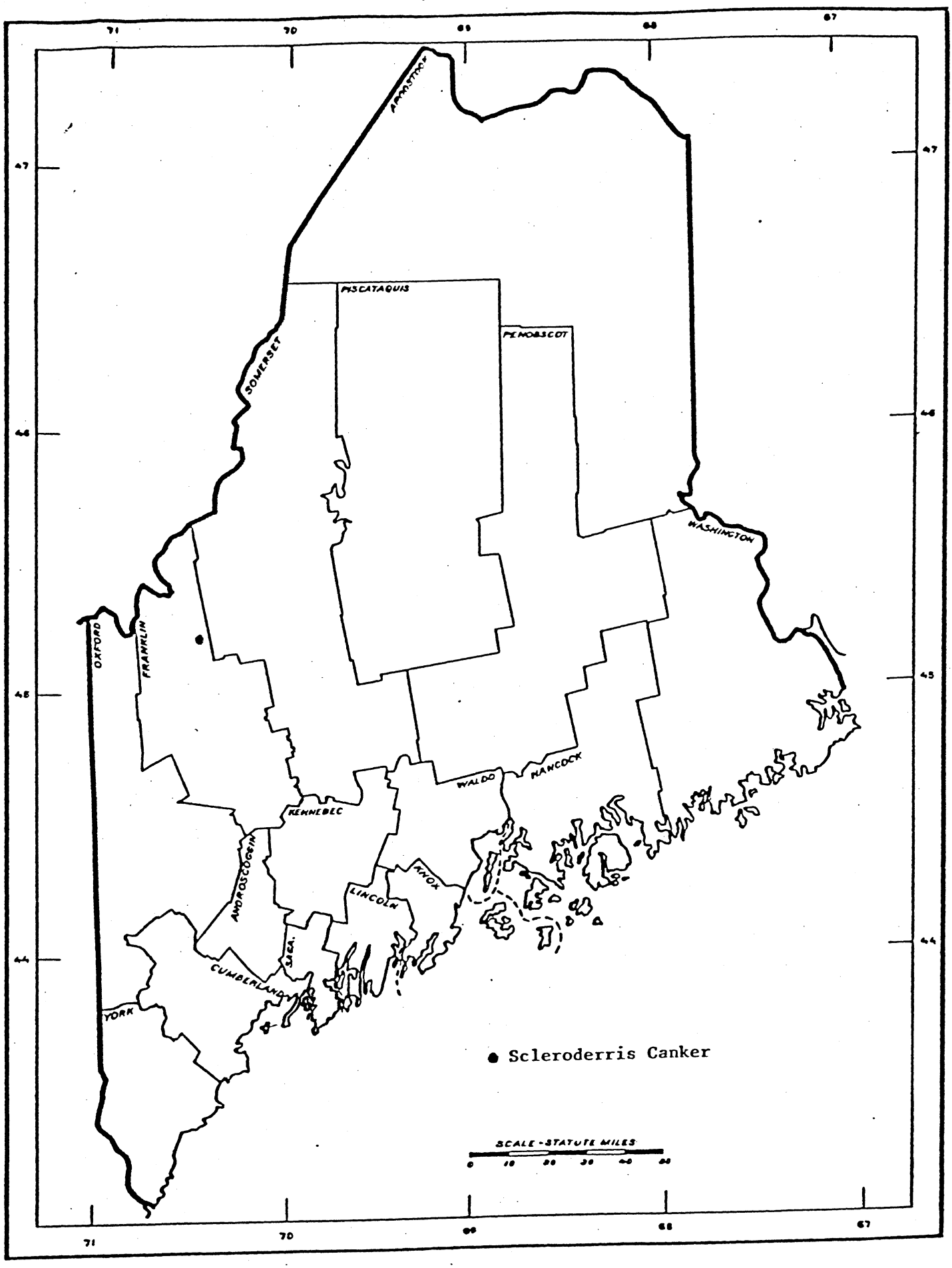
PAST TO PRESENT:

FUTURE:

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): No control projects in 1990.

COMMENTS: This does not appear to be a serious disease in Maine at the present time.

MAINE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● Scleroderris Canker
SCALE - STATUTE MILES
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MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Sirococcus Shoot Blight

(SPECIFIC NAME): Sirococcus conigenus

HOST: Red Pine, Blue Spruce

PRESENT CONDITION:

AREA (TOTAL ACRES): Statewide

LOCATION: Wild stands, plantations, and individual landscape trees affected statewide.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): One plantation (about 10 acres) is about to be totally lost. Other areas less severely affected.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Not quantified

TREND: Infection of ornamental spruce was less pronounced in 1990, but infected trees in red pine plantations show continuing mortality and decline.

PAST TO PRESENT:

FUTURE:

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS:

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): White Pine Blister Rust

(SPECIFIC NAME): Caused by Cronartium ribicola

HOST: E. White Pine

PRESENT CONDITION:

AREA (TOTAL ACRES): Statewide

LOCATION:

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Estimated 3.8% loss in control areas over a 10 year period; estimated 9.1% loss in noncontrol areas over a 10 year period.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Annual loss about $100,000

TREND: Static

PAST TO PRESENT:

FUTURE:

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): 54 acres concentrated ribes (Tordon RTU) 5,998 acres scattered ribes (Tordon RTU)

COMMENTS: We have initiated tests to investigate Garlon (trichlopyr) as an alternative to Tordon. Preliminary results are promising.

MAINE

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Winter Injury

(SPECIFIC NAME): abiotic

HOST: Many species of native and introduced conifers, especially Scotch pine.

PRESENT CONDITION:

AREA (TOTAL ACRES): Not quantified

LOCATION: Statewide

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): Light to moderate damage to most species but heavy damage to Scotch pine (many Christmas trees were rendered unmerchantable)

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): Not quantified

TREND: No trends apparent

PAST TO PRESENT:

FUTURE:

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None

COMMENTS: Most of this damage can be attributed to the early and protracted cold weather of December 1989.

STATE OF NEW HAMPSHIRE
DEPARTMENT of RESOURCES and ECONOMIC DEVELOPMENT
DIVISION OF FORESTS AND LANDS
172 Pembroke Road P.O. Box 856 Concord, New Hampshire 03301
John E. Sargent, Director

STEPHEN K. RICE
Commissioner

603-271-2214
FAX: 603-271-2629

DEC 21 1990

December 18, 1990

James Linnane
USFS, NA-S&PF
Concord and Mast Roads
Post Office Box 640
Durham, NH 03824

Dear Jim:

Enclosed is the 1990 Forest Insect and Disease Conditions Report for New Hampshire.

Highlights of conditions in this state were affected by budget cutbacks again this year. At the end of the summer, I lost my only Insect and Disease Technician position. However, while it was filled, we were able to begin catching up on some of the work plan objectives.

Hemlock Wooly Adelgid - apparently has not yet reached our state borders. Thirty-one (31) permanent detection plots were examined this year with no evidence of infestation found. Also no infested nursery stock or stock shipped into the state was found to be harboring this pest. Systematic detection surveys for this pest were started in 1988. Lack of funds and personnel prevented conduct of the survey in 1989. The finding of no Hemlock Wooly Adelgid in 1990 was greeted with great cheer this year.

Pear Thrips - population failed to materialize again this year, making it our second year without receiving any reports of this insect. We did participate in Bruce Parker's Regional Pear Thrips Soil Sampling Project by delivering 110 soil plug samples from the area involved with our 1988 Pear Thrips Spray Project. This project was cancelled when the predicted spring population failed to materialize.

Gypsy Moth - continued to expand this year with the help of spring winds at the time of larval emergence. The dispersal of first instar larvae supplemented the building resident populations throughout the southern half of the state and resulted in 133,450 acres of moderate to heavy defoliation. Evidence of NPV and the Entomophaga fungus topped off late instar larvae with the result that very few starvation-stressed populations were observed or reported throughout the defoliated areas this year.

During the last two (2) years, I have been taking length measurements of egg masses to estimate defoliation potentials based on Moore and Jones Field Estimation of Fecundity of Gypsy Moth published in Environmental Entomology, 16:165-167 (1987). I compared measurements of 320 egg masses taken in 1989 and 610 egg masses taken in 1990. Average egg mass length reflected a 25 percent reduction. Estimated number of eggs per mass by Moore and Jones formula gave a 33 percent reduction from the 1989 estimate. Average 1990 moth catch per trap, based on 75 sites showed no change from the 1989 catch.

Interpretation of the data at this time leaves the question of next year's potential very much up in the air. Early egg mass collections to determine percent hatch may provide a more valid guesstimate before next spring.

Happy Holidays,

Alfred C. Avery
Forest Entomologist

ACA:sp
enc.

1990 PEST CONDITIONS REPORT WORKSHEET

PEST (COMMON NAME): Gypsy Moth

(SPECIFIC NAME): Lymantria dispar (Linnaeus)

HOST: Various hardwoods with strong preference for oak.

PRESENT CONDITION: Populations have been building and spreading for the last three years. The Entomophaga fungus was observed at 2/3rds of the 95 EM survey sites.

AREA (TOTAL ACRES): 133,450 acres of moderate to heavy defoliation.

LOCATION: All ten (10) Counties received some mod./heavy defoliation with Cheshire, Merrimack, Grafton and Carroll counties receiving the bulk of defoliation.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):

During the aerial survey all defoliation greater than 30% was sketched without any distinction between moderate (30-60%) and heavy (60 -100%).

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):

None observed.

TREND:

PAST TO PRESENT: Increased in 1990; 135 infestation sites in 1990 jumped to 311 sites, each site had moderate to heavy defoliation.

FUTURE: Unchanging from 1990 or decreasing in '91. Mixed signals from population surveys, i.e., average egg-mass-per-acre count dropped 21% from the '89 average; moth catch per trap remained unchanged from the '89 catch.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS):

1600 acre managed area proposed for 1991.

COMMENTS:

None.